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SECOND SEMESTER (CUFYUGP) DEGREE EXAMINATION, APRIL 2025

PHYSICS

PHY2CJ101/APH2CJ101 : ELECTRONICS I

2024 Admission onwards

Maximum Time:2 Hours	Maximum Marks:70

Section A

All Questions can be answered. Each Question carries 3 marks (Ceiling: 24 Marks)

1	What do you mean by break down voltage?
2	What are the benefits of extrinsic semiconductors?
3	What is a LED?
4	Define ripple factor and what is its value in case of full wave rectifier without filter?
5	What is a photodiode?
6	Convert the decimal number 17 to the hexa decimal system.
7	Which do you mean by knee voltage?
8	What do you mean by leakage current in a transistor?
9	What do you mean by hexa decimal number system?
10	Write a short note on Analog and Digital Signals.

Section B

All Questions can be answered. Each Question carries 6 marks (Ceiling: 36 Marks)

11	Explain the working of a full-wave rectifier circuit using two diodes ?
12	Briefly explain the working of a Zener diode ?
13	What do you mean by BCD Briefly explain its significance.
14	Explain the Common Emitter Characteristics of a NPN transisitor?
15	A half-wave rectifier uses a transformer of a turn ratio 4:1. The load resistance is 700 Ω. If the primary voltage in rms is 240 V, find the DC output voltage and peak inverse voltage ?
16	Calculate the peak voltage across each half of a center-tapped transformer used in a full wave rectifier that has an average output voltage of 100 V ?
17	The collector leakage current in a transistor is 200 μA in CE arrangement. If the same transistor is in CB arrangement, what will be the leakage current? (β=100)
18	What is DC load line? How will you draw the DC load line in the output characteristics of a transistor?

Section C

Answer any ONE. Each Question carries 10 marks (1x10=10 Marks)

19	Explain the energy band description of semiconductor & effect of temperature on semiconductor.
20	Explain the working of transistor as an amplifier?